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COHESIVE ZONE MODELLING USING T-SPLINES

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In this contribution, a new method is presented to determine whether a T-spline mesh is analysis-suitable or not. Furthermore, we investigate the propagation of cracks using a cohesive zone model, while discontinuities are introduced using T-splines.
NURBS and T-splines provide the opportunity to add a discontinuity by knot insertion. For a single NURBS patch, knot insertion can only be performed globally due to the tensor product structure – i. e. an interface for the patch is introduced. In contrast, T-splines allow the insertion of knots locally. As such, T-splines allow the modelling of propagating cracks [1].
Since for most materials, failure takes place in a process zone around the crack tip, we will focus on cohesive zone models in this contribution.

REFERENCES

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